

## France – U.S. Nanoscience Workshop Argonne National Laboratory June 3-5, 2007

**APS 401, Room A1100**

### SUNDAY, June 3

7:30 Bus departures begin from Argonne Guest House (APS 401 is also in walking distance)  
8:00-9:00 Registration in APS Atrium  
8:00-9:00 Continental Breakfast

### Welcome and Introduction

9:00	Welcome to Argonne	Eric Isaacs
9:10	DOE Overview	Pat Dehmer
9:40	CNRS Overview	Didier Stiévenard and Alain Fontaine
		“Center of Competence of Nanosciences in France”
10:00	CEA Overview	Jean-Philippe Bourgoin
10:15	Break	

### Electronic and Magnetic Properties

*Eric Isaacs, Presiding*

10:30	Bruno Grandidier (IEMN, CNRS, Lille)
	“Linewidths in Tunneling Spectroscopy of Semiconducting Nanocrystals”
11:00	Philippe Guyot Sionnest (University of Chicago)
	“Charge and Spin Flow in Nanocrystal Arrays”
11:30	Steven Louie (UC-Berkeley and Lawrence Berkeley National Lab)
	“Electronic Properties of Nanostructures: Tubes, Wires and Ribbons”
12:00	Stephan Roche (CEA, CNRS, Grenoble)
	“Revisiting Charge Transport at the Mesoscopic scale: emerging quantum phenomena in the light of advanced computational approaches”
12:30	Buffet Lunch in APS 5 <sup>th</sup> Floor Gallery

*Jean-Philippe Bourgoin, Presiding*

1:45	Ward Plummer (Univ. of Tenn and Oak Ridge National Lab)
	“Magnetism in Nano-Structured Nanomaterials”
2:15	Matthias Bode (Argonne National Lab)
	“Imaging Magnetic Nanostructures with Atomic Resolution”
2:45	Franck Balestro – (CNRS, UJF, Grenoble)
	“Nanospintronics and Molecular Transport”
3:15	Break

## **Novel Nanomaterials and Devices for Energy**

*Roland Herino, Presiding*

- 3:30 Julia Phillips (Sandia National Lab) (CANCELLED)  
“Nanomaterials for Solid State Lighting”
- 4:00 Marc Fontecave (CEA, CNRS, UJF, Grenoble)  
“Biomimetic Energy Conversion”
- 4:30 Tijana Rajh (Argonne National Lab)  
“Nanobio Hybrid Interfaces for Energy Transduction”
- 5:00 Break
- 5:15 Oleg Gang (Brookhaven National Lab)  
“Biomimetics with Inorganic/Biological Hybrid Structures”
- 5:45 Serge Palacin (CEA, Saclay)  
“Surface Functionalization for Molecular Electronics and Energy”
- 6:00-7:30 Shuttle bus between Bldgs 401, 440, and Guest House
- 6:15 Reception & Poster Session at Center for Nanoscale Materials, Bldg. 440 Terrace
- 7:30 Dinner at Argonne Guest House

## **MONDAY, June 4**

- 7:30 Bus departure to Building 401 (one bus only)
- 8:00 Continental Breakfast

## **Structural and Dynamic Properties at the Nanoscale**

*Derrick Mancini, Presiding*

- 8:30 Jo Stohr (SSRL, Stanford)  
“Fast Dynamics in Magnets at the Nanoscale”
- 9:00 Ben Ocko (Brookhaven National Lab)  
“Liquids at the Nanoscale”
- 9:30 Jean Daillant (CEA, Saclay)  
“Nanoparticles: Nucleation and Growth, Interfacial Behavior and Emulsion Stabilization”
- 10:00 Break (group photograph)

## **Coherent Control of Electrons, Spins and Photons – I**

*George Crabtree, Presiding*

- 10:30 Fabrice Charra (CEA, Saclay)  
“Molecular Nanophotonics: From Single Molecules to Localised Excitations and Plasmons”
- 11:00 Miquel Salmeron (Lawrence Berkeley National Lab)  
“The Atomic Scale Science of Friction”
- 11:30-1:00 Breakout Sessions (box lunch to be provided, APS Lower Gallery)
- A. Electronic and Magnetic Properties
  - B. Novel Nanomaterials & Devices for Energy
  - C. Structural & Dynamic Properties at the Nanoscale
  - D. Coherent Control of Electrons, Spins and Photons
  - E. Nanoscale Structure and Imaging

## **Coherent Control of Electrons, Spins and Photons – II**

*George Crabtree, Stephen Streiffer, Presiding*

- 1:00 Kamel Bencheikh (LPN, CNRS, Paris)  
“Coherent Effects in an Erbium-doped Crystal”
- 1:30 Bernard Dieny (Spintec, CEA, CNRS, Grenoble)  
“New Write Schemes for Magnetic Non-Volatile Memories: Thermally Assisted and Spin-Transfer Writing”
- 2:00 Kristen Buchanan (Argonne National Lab)  
“Dynamics in Nanomagnets”
- 2:30 Break
- 3:00 Renaud Bachelot (CNRS, UTT, Troyes)  
“Nanoplasmonics and Nanophotochemistry”
- 3:30 Henri Mariette (CEA-CNRS Grenoble)  
“Nanostructures of Diluted Magnetic Semiconductors: From Carrier Induced Ferromagnetism to Single Spin Quantum Dots”
- 4:00 Bus from 401 to Guest House
- 4:30 Bus leaves for Chicago from Guest House
- 6:00 Tour & Scientific Discussions at French Consulate, (205 N. Michigan Ave., 37<sup>th</sup> floor)
- 7:00 Departure for dinner @ Reza’s Restaurant, 432 W. Ontario, Chicago
- 9:15 Departure from restaurant to Argonne Guest House

## **TUESDAY, June 5**

7:30-2:00

Shuttle bus between Bldgs 401, 440, and Guest House

8:00 Continental Breakfast

## **Nanoscale Structure and Imaging**

*Jörg Maser, Presiding*

- 8:30 Janos Kirz (LBNL, ALS)  
“Coherent Diffraction Imaging”
- 9:00 Virginie Chamard (TECSEN, CNRS, Marseille)  
“Strain at the Nanoscale using Coherent X-ray Diffraction”
- 9:30 Yimei Zhu (Brookhaven National Lab)  
“Transmission Electron Microscopy Beyond Imaging Atoms”
- 10:00 Philippe Pareige (GPM, CNRS, Rouen)  
“3D Atomic Tomography: Atomic Observation of Nanomaterials with the Tomographic Atom Probe (3D AP)”
- 10:30 Break
- 10:45 Tours of APS and CNM Sector 26
- 12:00 Closeout Session, CNM Bldg. 440, Rm A105/106 (box lunch to be provided)
- 1:00 Laboratory tours of CNM (including Cleanroom Facility)
- 2:30 Depart for airport